

balance™ hybrid electric

Improve fuel economy by up to **40%** and reduce your maintenance costs by up to **30%**



Azure Dynamics' Balance™ Hybrid is **driving a world of difference** in cities throughout North America.



balance™ architecture

1 INTEGRATED STARTER/ GENERATOR (ISG)

Used to start the engine and to generate power.

2 VEHICLE CONTROL UNIT (VCU)

Controls all hybrid components and coordinates their operation with the Ford systems (e.g. start/stop).

3 2ND 12 VOLT BATTERY

2nd 12V battery desired by most shuttle bus customers due to high 12V loads.

4 HIGH VOLTAGE JUNCTION BOX

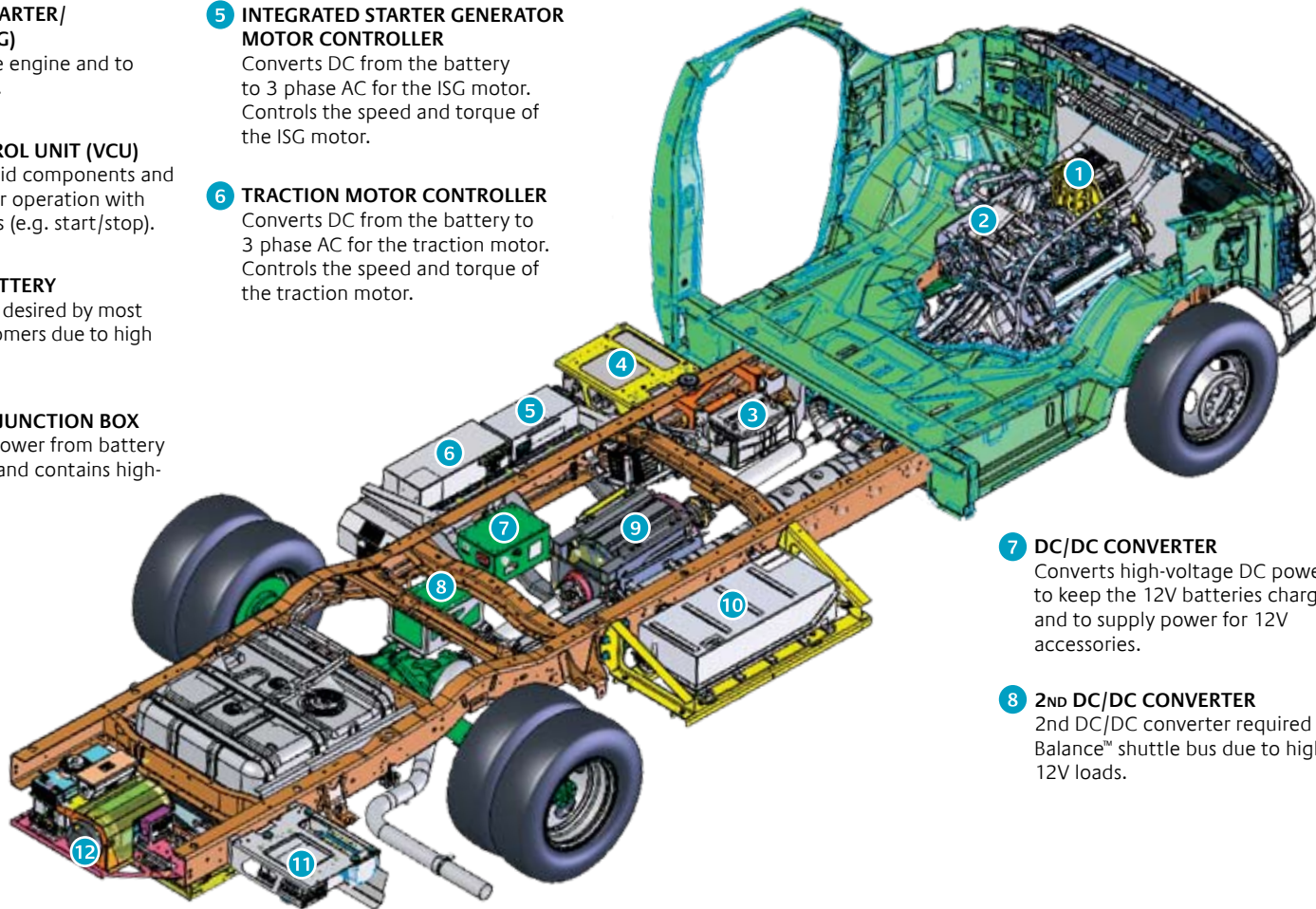
Distributes DC power from battery to components and contains high-voltage fuses.

5 INTEGRATED STARTER GENERATOR MOTOR CONTROLLER

Converts DC from the battery to 3 phase AC for the ISG motor. Controls the speed and torque of the ISG motor.

6 TRACTION MOTOR CONTROLLER

Converts DC from the battery to 3 phase AC for the traction motor. Controls the speed and torque of the traction motor.



9 TRACTION MOTOR

Converts electrical energy to wheel torque in order to propel the vehicle. Speed & torque outputs are based on accelerator input as well as vehicle operating conditions.

10 ENERGY STORAGE SYSTEM (ESS): HIGH VOLTAGE BATTERY PACK

Liquid cooled high voltage battery pack. Stores energy and includes internal sensors and controller.

11 ELECTRIC POWER ASSIST SYSTEM MOTOR & MOTOR CONTROLLER (EPAS)

Supplies hydraulic assist for brakes & steering when engine is off.

12 ELECTRIC AIR CONDITIONING UNIT

Converts DC from the battery to 3 phase for the air conditioning compressor motor.

7 DC/DC CONVERTER

Converts high-voltage DC power to keep the 12V batteries charged and to supply power for 12V accessories.

8 2ND DC/DC CONVERTER

2nd DC/DC converter required for Balance™ shuttle bus due to high 12V loads.



hybrid electric attributes

- High voltage maintenance free battery
- Regenerative braking reduces brake wear
- Engine idle off feature saves fuel and reduces emissions
- Electric drive mode at low vehicle speeds
- Altoona tested for 7 year / 200,000 miles
- Max speed: 72 mph
- Acceleration within 10% of stock vehicle

chassis mandatory specifications

- See Azure Specifications & Ordering Guide (SPC500751) for guidelines
- See Azure Body Builder Supplement (MAN500721) for guidelines
- Chassis / GVWR: E-450 Cutaway / 14,050 lbs
- Engine/Transmission: 5.4L EFI FFV V8 Gas Engine / Elect. 5-Spd Auto OD with Tow Haul
- Wheelbase / Rear Axle Ratio: 158" / 4.56 Non-Limited Slip
- Front GAWR: Front Max GAWR (5000 lbs)
- Auxiliary 12V Battery required
- Minimum body width requirement of 86"
- Not Available: Traction Control, Anti-theft, Speed Control, In-Dash Computer, Crew Chief & Trailer Tow package.

sales inquiries

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